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PATENT SPECIFICATION

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Drawings (2 sheets) attached.

COMPLETE SPECIFICATION.

**"IMPROVEMENTS IN OR RELATING TO FOLDING TABLES
AND THE LIKE."**

The following statement is a full description of this invention, including the best method of performing it known to us:-

The present invention relates to folding tables and other working surfaces, benches and the like.

Objects of this invention are to provide a folding leg action for a working surface, bench or the like in which the legs fold into a plane substantially parallel to the top of the working surface or bench and which is sturdy and strong and inexpensive to construct; which when erect does not give the appearance of a folding table and which enables a folding table to be constructed in which the legs do not have to be pivoted close to the edges of the table even with a table top having such a small dimension as two feet six inches long.

In this specification the word "table" is used to denote any form of working surface or bench or other seating surface or frame upon which they are mounted and the words "table top" shall include the upper surface of the working surface or of the seat surface.

According to the present invention a folding leg action for a table comprises a pair of inter-connected legs for positioning adjacent each end of the table top, links pivoted at one end to

the upper part of the legs and adapted at the other end to be pivoted to a fixed portion of the table and guides adapted to be secured to the table which permit guide members on the legs to slide along the guides to a position where the legs are in their open or extended position and to slide along the guides in the other direction to a position where the legs are folded to lie substantially parallel with the table top with the guide members engaging with the guides.

The invention will now be described with reference to the accompanying drawings in which:

Figure 1 shows an underneath perspective view of a table having a folding leg action constructed in accordance with the present invention;

Figure 2 shows partly in section and partly in side elevation one end of a table incorporating the folding legs as shown in Figure 1;

Figure 3 shows in plan view the legs shown in Figure 2 in folded position; and

Figure 4 shows a detail of an alternative construction of folding leg action in accordance with the present invention.

Referring to Figure 1, the table top consists of a flat sheet 1 of heat resisting plastic material, plywood, or the like, secured to a framework consisting essentially of two tubular members 2, 2 each of which extends the full length of the table and is positioned about one third of the width in from the side edge of the top. The ends of the frame members 2 are secured to the depending edges 3 of the table top proper.

Guides 4 are secured as by welding or brazing to the underside of each tubular member 2 at points adjacent but inwardly of the ends of the table. Each guide 4 is so shaped as to provide a longitudinally extending guide slot between itself and the tubular member 2 to which it is attached the slot being closed at the end 5, that is to say at the inner end. Sliding in the slot formed by the guide member 4 is a cross member 6 the cross member being of such dimensions that it forms a smooth sliding fit in the guide. In Figures 2 and 3 the guide comprises an L shaped member 7 with the short leg vertical and at the inner end the long leg extending parallel with the frame and towards that end of the table top leaving an open end. Alternatively, the guide member may be formed from a U shaped member so as to provide a closed slot.

The cross member 6 connects the two legs at that end of the table each leg in this case consisting of a pair of tubular members 8 and 9 joined at their lower ends and forming a narrow V the upper ends of which embrace and are welded to the cross member 6. The cross member 6 extends into the guides 4 at that end of the table and as it is moved along the guides 4 the

legs are constrained to move with it.

Each leg is pivoted near its upper end but below the cross member to a link 10 the other end of which is pivoted to a frame member 2 at a point 11 approximately midway between the ends of the table top. Conveniently the two links 10, 10 at each end of the table and on the same side of the table can be pivoted at the same point at their inner ends to the frame member.

A flat bar 12 is secured between the tubular frame members 2 and at such a position that when the legs are in the open or extended position the cross member 6 lies immediately below the bar 12 and allows a spring loaded plunger 13 to ride up and to lock behind the bar 12 and so hold the legs securely locked in the open position. Conveniently the plunger is located centrally of the cross member. Naturally one or more plungers may be provided or if desired other means of locking the legs open may be employed. For example, the cross member may be caused to pass over the dead centre of a leaf spring so that they cannot accidentally be closed but must be closed against pressure of the spring.

The positioning of the guide 4 and the dimensions of the links 10 and their position of pivoting 14 to the legs is such that when the legs are in the folded position, as shown in Figure 3, the legs and the links lie folded substantially along the frame members 2 and when the legs are open the cross members abut against the closed inner ends of the guides preferably with the legs sloping outwardly. By positioning the upper ends of the legs inwardly of the table edge both as regards the ends and sides of the table the legs can be given a contemporary splayed out configuration and at the same time when folded can lie wholly within the depending flanged edge of the table.

In operation and with the legs in the closed position as shown in Figure 3 each pair of legs is pulled outwardly of the table top which causes them to pivot about the links which in turn pivot about the frame members. Simultaneously the cross member 6 slides along the guide inwardly until it abuts against the closed inner end of the slots. In this position the plunger 13 locks behind the bar 12 and so rigidly secures the cross member against any movement and the legs are thus securely held in the open position. To refold the table the spring plunger is withdrawn so that the cross bar can be returned along the slot and the legs allowed to fold against the table top.

Figure 4 shows a detail of an alternative form of construction. In this construction the frame members 2 carry guide members 15 comprising flattened U shaped strips welded at each end to the frame member 2 to form an elongated closed slot. Instead of the cross member 6 sliding in the slot the member 6 is disposed between the legs 16 below the guide members 15 and the top of each leg is flattened at 17 and has welded to project

from the inner face of the flattened top end a bolt 18 which projects into the guide slot and extends beyond the inner edge of the slot to be engaged by a wing nut 19. At the inner end of the guide member 15, that is to say at that end at which the legs come to rest when in the open or extended position, a shoulder 20 is formed which when the wing nut 19 is tightened up engages the shoulder of the wing nut so that not only are the legs held in the open position by the tightening of the wing nut against the guide member but they are positively locked in that position by the wing nut engaging behind the shoulder 20. The links 10 operate and are positioned in the same manner as described with reference to the embodiment shown in Figures 1 to 3. The legs 16 are of different form and in this case comprise simple tubular legs.

Whilst the invention has been described with reference to its incorporation into a table it will be realised fundamentally the invention comprises a folding leg action which can be built as a unit and if desired applied to any folding table or other working surface, benches and the like.

The claims defining the invention are as follows:

1. A folding leg action for a table comprising a pair of interconnected legs for positioning adjacent each end of the table top, links pivoted at one end to the upper part of the leg and adapted at the other end to be pivoted to a fixed portion of the table and guides adapted to be secured to the table which permit guide members on the legs to slide along the guides to a position where the legs are in their open or extended position and to slide along the guides in the opposite direction to a position where the legs are folded to lie substantially parallel with and against the table top with the guide members engaging with the guides. (13th May, 1957).

2. A folding leg action as claimed in claim 1 in which the links are adapted at their other ends to be pivoted to or close to the underneath of the table top and in their folded position to lie against or close to the underneath of the table top along their whole length. (13th May, 1957).

3. A folding leg action as claimed in claim 1 or claim 2 wherein the legs, the guide members and the other end of the links are all mounted upon a framework which is adapted to be mounted onto or against the underneath of the table top. (13th May, 1957).

4. A folding leg action as claimed in any of the preceding claims in which the legs are interconnected by a cross member which also serves as the guide members. (13th May, 1957).

5. A folding leg action as claimed in any of claims 1 to 3 in which the guide members comprise bolts or the like extending laterally from the upper ends of the legs to ride in the guides. (13th May, 1957).

6. A folding leg action as claimed in claim 5 in which wing nuts or the like are provided for locking the legs in their open and if desired also the closed positions in the guide. (13th May, 1957).

7. A folding leg action as claimed in any of the preceding claims 1 to 5 in which there is provided on or in the leg construction at least one spring plunger which, as the legs are moved to the open position, rides over a locking surface mounted upon a fixed part of the table or the framework of the action to lock the legs in the open position and if desired also moves over another surface mounted on the table or the framework of the action for locking the legs in the folded position. (13th May, 1957).

8. A folding leg action as claimed in any of the preceding claims in which the pair of links on each side of the action connected respectively to the legs at each end of the table extend from a central position where they are mounted upon a common pivot to the respective legs. (13th May, 1957).

9. A folding leg action as claimed in claim 3 in which the framework comprises a pair of tubular members adapted to extend the full length of the table and so spaced apart as to be spaced inwardly at each side of the table top, means being provided at each end of the tubular members and at least one point along the length of the framework for securing it to the table top. (13th May, 1957).

10. A folding leg action as claimed in claim 9 in which the means for securing the framework to the table top include downwardly directed flanges adapted to be secured to a peripheral flange provided around the edge of the table top. (13th May, 1957).

11. A folding leg action as claimed in any of the preceding claims in which the guides are formed from L shaped or U shaped members adapted to be secured to the underneath of the table top or to the framework carrying the action, their length being such that when the guide members on the legs abut one end of the guide the legs are in their fully open or extended position and when the legs are fully closed the guide members still remain

in the guide slot and at the other end thereof. (13th May, 1957).

12. Tables and other working surfaces and benches and other seating surfaces whenever provided with the folding leg action as claimed in any of the preceding claims. (13th May, 1957).

13. A folding leg action substantially as described with reference to Figures 1 to 3 of the accompanying drawings. (13th May, 1957).

14. A folding leg action substantially as described with reference to Figure 4 of the accompanying drawings. (13th May, 1957).

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